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SERVICES ÉCONOMIQUES DE L'INDO-CHINE

**HE DOESN'T SHINE SHOES WHILE YOU WAIT—HE MAKES THEM!**

With leathery, thimble-less fingers, this French Indochina cobbler pushes a needle through tough buffalo hide and sews a sole to an upper to make a sandal. The finished products on the mat immediately at his left might be taken for an American schoolgirl's "loafers," but the boots (right) are completely strange. Two southernmost sections of Indochina—Cambodia and Cochin China—are in the midst of governmental changes (page 3).

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# Cambodia, Cochin China Undergo Changes

THE two southernmost sections of French Indochina—now undergoing political changes—are temple-strewn Cambodia and fertile, rice-growing Cochin China. Cambodia is on the way to becoming a constitutional monarchy, while Cochin China has been proclaimed a "free state within the framework of the Indochina Federation and French Union."

Medieval temples and modern palaces stand side by side in Cambodia, the southwestern portion of French Indochina. The remarkable ruined buildings of Angkor (illustration, page 4), discovered in the jungles in 1860, testify to the advanced civilization of the Cambodians at the height of their Khmer Empire in the Middle Ages.

## Women Once Fought Beside Men in Cambodia

Pnompenh, the present capital of this country the size of the State of Washington, has wide, well-shaded streets, white buildings reflecting French influence, long rows of shops, and a wooded park. The royal palace represents a series of Oriental buildings behind rectangular walls.

Legend says Cambodian women once successfully fought beside male warriors and earned the right to warriors' garb. Men and women now dress nearly alike in gaily colored cloth draped to form loose breeches.

Some prefer the sarongs and pajamas which brighten the market scene in Pnompenh, where crowds gather daily to haggle over prices at the sidewalk shops (illustration, cover). Half-clad chefs roast bananas over charcoal braziers, and tend steam pots of rice on portable stoves. When night blacks out the colorful panorama, the life of the city throbs to the melodies of tom-toms, plaintive pipes, and bamboo xylophones.

Pnompenh, on the Mekong, is reached by river steamers except in dry seasons. The Mekong is the life-giving Nile of Cambodia. Like Egypt, much of the country consists of delta land. Tonle Sap, a lake west of the river, increases in length from 70 to 120 miles during the rainy season when the Mekong overflows. The lake is below river level.

The annual flood greatly enriches miles of rice paddies and causes villages to be built on stilts. Native huts of palm leaf and bamboo are erected on wooden piles, raising the floors several feet above the ground. Some families solve their housing problems by living in houseboats.

## Cochin China Was France's First Indochina Possession

The southwest corner of Cambodia is a mountainous area. Partly covered with the same greedy natural growth that swallowed Angkor, it is the home of tigers, panthers, rhinoceroses, and other wild animals. In this area tribes long fought with poison darts from bows and blowguns.

Cochin China is the smallest and most southerly division of French Indochina. Annexed in the early 1860's, it was the first territory which the French acquired in this area. Before World War II, Cochin China was administered as a colony, while the other states—Annam, Tonkin, Cambodia, and Laos—were governed as protectorates.

Cochin China is about the size of West Virginia, but with a population

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**ENGLAND'S CHALK CLIFFS CURVE AROUND THE SOUTHEAST CORNER OF THE ISLAND AND EXTEND NORTHWARD TO MARGATE**

This sandy playground, two hours by train from London, is thronged in summer by cockney and lord. Booths on the beach are for changing. Margate is situated near North Foreland, the point where the Thames estuary joins the Strait of Dover (page 11).

# Baltic-White Sea Canal Serves North Russia

REPORTED open again for navigation and transport duty is the Baltic-White Sea Canal, which forms the northernmost link in Soviet Russia's wide-flung system of inland waterways.

The Joseph Stalin Canal—as the Baltic-White Sea route is also known—connects Leningrad, number-one Soviet port on the Gulf of Finland, with Belomorsk on the White Sea arm of the Arctic Ocean. It is about 550 miles long. It flows through two of the Soviet republics—the Russian S.F.S.R. and the recently formed Karelo-Finnish S.S.R.

## Saves Long Journey Around Scandinavia

From Leningrad, by way of the River Neva, the canal skirts the southern shores of Europe's largest lake, Ladoga (Ladozhskoe Ozero). Thence it follows a northeast, then northward course, joining navigable rivers and lakes. In this far-north land of sleighs and snow (illustration, page 6) waterways are useless during the winter, but this canal is paralleled all the way by a railroad.

The Baltic-White Sea waterway was completed in 1933, as part of a network designed eventually to reach to the Black Sea and the Caspian Sea, far to the south. This northern short cut saves many days and thousands of miles of sailing once required in the journey to and from the Arctic around the Scandinavian Peninsula.

Scattered highlands in the Soviet northwest region of forests and lakes give many streams short but sharp falls, providing considerable reserves of hydroelectric power. A number of power stations and dams were built along the Baltic-White Sea watercourse. Nineteen locks were constructed on the last and main section—the 140-mile stretch from Povenets, at the northern end of big Lake Onega (Onezhskoe Ozero) to the terminal port of Belomorsk.

Canal installations and settlements in this area suffered heavily during the war. Destruction of one of the locks blocked the Baltic-White Sea route in June, 1941. Later bombings of locks and dams unleashed reservoir waters that forced new river beds and flooded towns. Fire and water, the Russians reported, wiped out both the old town of Povenets and the near-by new city of Medvezhegorsk.

## Canal Carries Timber, Granite, Minerals

Part of the job of restoring the Baltic-White Sea Canal involved the raising of sunken ships. To help move essential commodities needed now for reconstruction, damaged vessels have been repaired, and many new barges, freighters, and passenger ships are reported ready for service.

Heavy cargoes floated on the northern waterway include such typical regional products as timber, granite, and other building materials. Ores of iron, copper, and nickel also are hauled. From the south, by way of the great Volga River and its ship-canal branches come grains, salt, coal, and petroleum.

Completion in 1937 of the Moscow-Volga Canal gave Russia's inland capital water outlets to the Baltic, White, and Caspian seas. The long-projected canal between the lower Volga and the Don, which flows into



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nearly three times as large. The paddy fields are worked by small, scantily clad natives and their slow-footed water buffaloes. Fruits and such other foods as corn, sweet potatoes, sugar cane, and coconuts supplement the rice and fish diet of the 4,500,000 inhabitants.

Except in the teak-forested highlands of the northeast, abounding in big-game tigers, panthers, and elephants, Cochin China is a region of plains and swamps. It owes its fertility to the Mekong, whose river silt continually adds to the rich delta lands.

The capital, Saigon, is a French city decorated with lush flowers and gardens and normally inhabited by more than 100,000 Orientals and 10,000 Frenchmen. Near-by Cholon, Saigon's industrial suburb, is a largely Chinese settlement of vertical signboards, dragon processions, and the perpetual clatter of wooden clogs along narrow, crowded streets.

NOTE: Cambodia and Cochin China are shown on the National Geographic Society's map of Southeast Asia. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

See also, "By Motor Trail Across French Indo-China," in the *National Geographic Magazine* for October, 1935*; "Along the Old Mandarin Road of Indo-China," August, 1931; and "Four Faces of Siva," September, 1928; and in the GEOGRAPHIC SCHOOL BULLETINS, January 27, 1947, "French Indochina Cities Witness Fighting"; and "Siam Ends French Indochina Border Dispute," November 4, 1946. (*Issues marked with an asterisk are included in a list of Magazines available to teachers in packets of ten for $1.00.*)

SERVICES ÉCONOMIQUES DE L'INDO-CHINE

**AMID THE RUINED SPLENDOR OF ANGKOR, CAMBODIAN DANCERS RECALL AN ANCIENT GLORY**

The mystery-surrounded Khmer race built Angkor between A.D. 889 and 908. The city, now cloaked by the Cambodian jungle, was once more populous than Rome or Carthage and richer than Babylon. In the 13th century, the mammoth and intricately carved stone city was abandoned. What became of its people staggers the imagination and baffles the scientific probing of modern man.

NATIONAL PARK SERIES: No. 21

# Grand Teton, Wyoming Landmark and Lodestone

LIKE a forty-mile crosscut saw, the Teton Range, with its pointed, tooth-like peaks, cuts a jagged skyline above Jackson Hole in northwest Wyoming. The beetling crags rise a full 7,000 feet above the valley floor—one of the most stupendous barriers in nature. Twenty-seven miles of the north-south range lie within Grand Teton National Park.

The north end of the park is only 11 miles from the south boundary of Yellowstone, and visitors often drive to both national parks while they are in the area. Grand Teton should not be overlooked because of its nearness, and assumed similarity, to Yellowstone. Actually, its peaks (illustration, page 8) rise from one to three thousand feet higher than those of the larger park.

## Country's Most Jagged Skyline

Grand Teton, the central crag which gave its name to the range and to the park, towers 13,766 feet above sea level. Its sister peaks are called Middle Teton (12,798) and South Teton (12,505). Their prominent summits served as far-visible landmarks for fur trappers between 1810 and 1845, just as they are lodestones for today's travelers. Early Americans called them the pilot knobs; to French trappers they were "les trois tetons" (the three breasts). The French name stuck.

Besides these three, at least 20 other named peaks soar above the 10,000-foot mark. A host of slightly lower unnamed pinnacles and crags help make the Teton saw-tooth skyline the most jagged in the country.

Softening the austerity of the gaunt, gray mountains, and often mirroring their snow-capped summits, several lakes, like blue scatter rugs, are placed at their feet. The lakes were formed when glacial moraines dammed up narrow valleys. Looking up from each lake, one can see the crevice or canyon through which the glacier traveled to the foot of the range. Far above, there is the amphitheaterlike cirque, where the ancient ice floe was born, and sometimes a small living glacier.

When the Teton Range first formed, it was a huge rectangular block. Glaciers, wind, precipitation, and other erosive agents carved the east edge of the block into the string of arrow-sharp pinnacles of today.

## Sunlight Varies the Scene

Best views of the Tetons are from the southeast. There are no foothills. From the flat floor of Jackson Hole, a basin covered with cattle ranches and dude ranches, the mountains rise virtually in one step to cloud-piercing crags where snow never melts. The clustered, tapering spires and Gothic towers remind many visitors of a vast cathedral.

Dawn and dusk views are most inspiring. When the sun is in the east, the peaks are flooded with bold light that reveals every wrinkle and crevice and reflects from the glassy snowbanks. A westerly sun sends huge pointed shadows walking across Jackson Hole, and the peaks are dark, velvety blocks edged in silver or crimson.

The most scenic (and least productive) section of Jackson Hole was made a national monument by President Roosevelt in 1943. This public

the Black Sea, promises the final link to make good Moscow's title as a "port of four seas."

NOTE: The route of the Baltic-White Sea Canal and the railroad which parallels it may be traced on the Society's map of the Union of Soviet Socialist Republics, which appeared as a supplement to the December, 1944, issue of the *National Geographic Magazine*.

For additional information, see "I Learn About the Russians," in the *National Geographic Magazine* for November, 1943*; and "Mother Volga Defends Her Own," December, 1942.

SOVFOTO

**A MERRY, WARMLY WRAPPED WEDDING PARTY CROWDS ONTO A RUSSIAN SLEDGE**

The solemn couple beside the accordion player is the bride and groom. Accordions are much loved and played in Russia. Rough-hewn log houses, with carved eaves and window cases, are typical of the Soviet Union's north country through which the Joseph Stalin Canal runs.

## EAST PRUSSIAN CITIES ACQUIRE RUSSIAN NAMES

Tilsit becomes Sovetsk, Insterburg is now Chernyakovsky, and Pillau is Baltiisk under the recent Russian decree renaming cities in the Soviet Union's portion of prewar German East Prussia.

At Tilsit, in 1807, Napoleon of France and Tsar Alexander I of Russia divided much of Europe and Asia between them. Napoleon, with his flair for the dramatic, arranged their first meeting on a specially built raft anchored in the Niemen (Memel) River off Tilsit so that thousands could watch. Modern prewar Tilsit was a city of 60,000 people, a teeming river port for German and Russian lumber.

Insterburg, 30 miles south, where the Inster and Angerapp rivers meet to form the Pregel, was a city of 40,000 residents in the heart of a horse and cattle region. Its summer livestock fairs drew crowds from all East Prussia. Scottish settlers of the 17th century contributed to its first era of prosperity.

Pillau, Königsberg's port on the Bay of Danzig, occupies the southern tip of the Samland Peninsula, source of seven-eighths of the world's supply of natural amber, often called "Baltic gold." Prewar population was less than 10,000.

Königsberg, by far the largest of prewar East Prussian cities, with about 400,000 people, had its name changed to Kaliningrad by a Soviet decree in mid-1946. It is a manufacturing center near the mouth of the Pregel.

# Seasonal Sap Runs Again in Sugar Maples

"SAP'S a-runnin'!" is the happy cry that dispels winter on thousands of farms in northeastern United States and southeastern Canada. And March is the month when warm, sunny days combine with frosty nights to start the sweet and profitable flow in the sugar-maple trees.

In "unusual" seasons sap may start flowing in February, and it has been known to drip on into May.

The sugar maple (*Acer saccharum*), known also as the hard maple and the rock maple, grows over an extensive area from Newfoundland westward through New England and the Great Lakes region to the Great Plains. In only a small part of this area, however, are weather conditions right for a sap flow large enough to be commercially profitable.

## New York and Vermont Lead in Production

Three-fourths of the maple sirup and sugar produced in the United States comes from Vermont and New York. Southern Quebec and southeastern Ontario, across the border in Canada, complete a compact area that supplies more than four-fifths of the world's maple sweets.

Ohio, Pennsylvania, Michigan, and Wisconsin follow the two leaders of United States maple production. These four states surpass Vermont's neighboring New England states. Maple-sugar agriculture has roots as far south as Garrett County in western Maryland, and as far west as Minnesota. This earliest-in-the-season northern crop brought about 4,000,000 welcome dollars to American farmers in 1946.

But maple-sugar production has dwindled to about one-fifth of the peak output of 1918. The record yield of more than 26,000 tons of maple sugar in 1860 was virtually duplicated in the last year of World War I, when white sugar was scarce. Low sirup prices in the 1930's caused a gradual decline so that the annual production was only about 10,000 tons.

Fully 20 per cent of the 3,624,000 maples normally tapped in Vermont were destroyed by the hurricane of 1938. A sugar maple must be at least 30 years old to be ready for tapping, and some of the hurricane victims were a century old or more.

## "Sugarin' off" Time Marks Beginning of Spring

Sugar-maple wood is hard and strong, excellent for floors, meat blocks, and bowling pins. Many a farmer sold his sugar maples to the lumber mills when the manpower shortage of the war years left few workers to harvest the sap. Short sap seasons further cut the supply, which has reached the lowest levels on record—4,100 tons in 1945 and 5,500 tons in 1946.

In spite of this low ebb, "sugarin' off" in the spring is in the blood of thousands of farm families. The sap season comes as a welcome break between snowbound idleness and early plowing. Many farmers sell sirup and sugar in cans by mail direct to customers, and thus share in the retail price returns.

Much of the maple sirup goes to blenders who mix it with cane sirup, thus stretching the delicate flavor thinly to satisfy as far as possible the

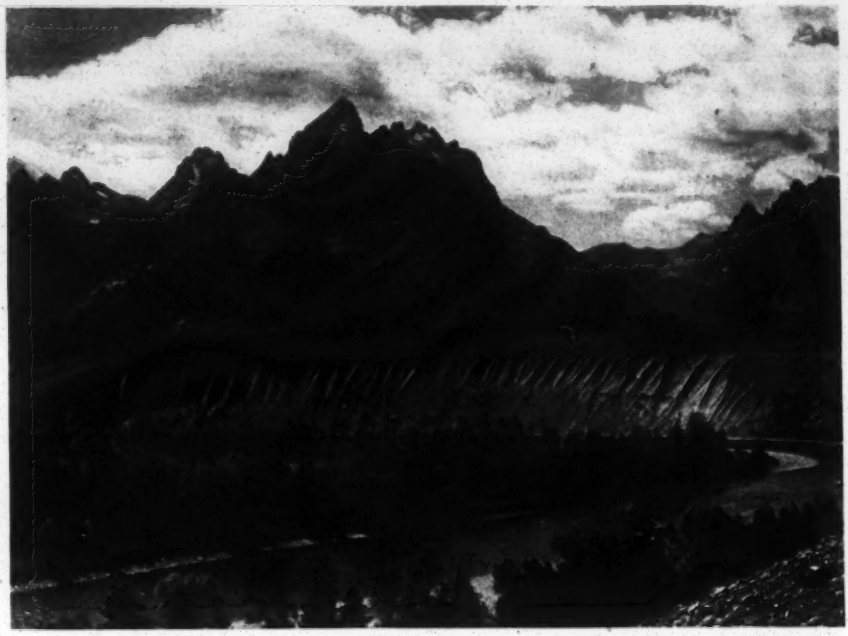
area joins Grand Teton National Park on the east and north. National monuments are like national parks except that they often enclose areas of historic and scientific interest and are usually not developed primarily for recreation. Jackson Hole National Monument, however, makes a logical recreation unit with Grand Teton National Park.

Many dude ranches, cottage camps, and small hotels in the Jackson Hole area provide accommodations for park and monument visitors. In the park, on the shores of Jenny Lake and String Lake, are two automobile camps. From these lakes trails lead to the park's points of interest.

Those expert enough to attempt climbing the highest peaks may do so, but should notify park authorities before starting out. The Tetons are known over the world for their sharp challenge to mountain climbers. However, Middle Teton and South Teton present relatively easy climbs. Park season is June 15 to September 15, but the few miles of roads in the park are maintained a month earlier and later. U. S. 187, an all-year highway, runs along the eastern boundary.

NOTE: Grand Teton National Park is shown on the Society's map of the Northwestern United States.

For additional information, see "Western National Parks Invite America Out of Doors," in the *National Geographic Magazine* for July, 1934; and "Jackson Hole, Wyoming: a Bit of the Old West," in the GEOGRAPHIC SCHOOL BULLETINS, February 26, 1945.



G. A. GRANT, COURTESY NATIONAL PARK SERVICE

**THE BOLD, NAKED TETONS, UNPROTECTED BY FOOTHILLS, STAB THE SKY ABOVE JACKSON HOLE**

Wooded lower slopes harbor many wild animals, among them the Shiras moose. The late George Shiras, 3d, a naturalist and life trustee of the National Geographic Society, made a Wyoming study for Congress in 1904. He recommended that the Teton Range and Jackson Hole be added to Yellowstone National Park. Grand Teton National Park, named for the highest peak in the picture, was established in 1929. The cleft in the range is Cascade Canyon; Snake River in the foreground.

# Dover's White Cliffs Symbolize England

ENGLAND'S "white cliffs of Dover"—from whose sheer walls about a quarter of a million tons of chalk recently crumbled into the sea—are familiar to many Americans through English history, a wartime novel in verse, a popular song, and a motion picture. The impregnable cliffs seem to many Channel crossers to symbolize the staunch character of the people who live on the "tight little isle."

Across the Strait of Dover at its narrowest point the chalk cliffs of England face those of France—of similar formation—20 miles away.

## Dover Has Been a Mirror Held to English History

Rising from calm or stormy seas, shrouded in mist or gleaming white in the sun (illustration, page 12), the looming heights of Dover have been a memorable landmark for centuries. The city of Dover, with a prewar population of more than 40,000, lies in a break in the cliffs at the mouth of the River Dour. Fortified heights guard it on the east and west.

On the eastern rise loom the ancient buildings of Dover Castle. The octagonal lighthouse, dating from about 50 A.D., is perhaps the oldest building in England. Crowning the western heights are old fortifications, the fragment of a lighthouse, and foundations of a church associated with King John. To the west the land dips and rises again to Shakespeare's Cliff, the 350-foot headland named from its connection with *King Lear*.

To the east of the town is the spot where, in 1909, Louis Blériot landed the first airplane to fly the Channel. A walk leads along the edge of the cliffs to St. Margaret's Bay, about 7 miles east. It was in the vicinity of this picturesque resort village that the section of cliff collapsed on February 11.

During World War II, this stretch of English shore was known as "hellfire corner." As German shells and bombs rained on the old port, Dover's residents took shelter in the caves and tunnels in the sides of their massive chalk hills.

## World War I Monument Near New Cliff Slide

For 2,000 years the Dover coast has been a springboard as well as a target for attack, often at the same time. The bombardments of World War I were a mild foretaste of what World War II would bring. During both conflicts German planes and long-range guns battered away at Dover, to prevent—if possible—the transportation across the Channel of the troops and supplies concentrated at the port.

On the eastern prong of St. Margaret's Bay was erected the obelisk commemorating the Dover Patrol. In World War I this fleet of American and British destroyers protected channel shipping from German mines and submarines, with the phenomenal record of losing only 73 vessels out of 125,100. Companion monuments were built on Cap Blanc Nez, on the French coast, and in distant New York harbor.

*White Cliffs*, the short verse-novel published in 1940, was written against the English background of both world wars. It furnished material for the motion picture, *White Cliffs of Dover*. The words of the wartime song about bluebirds and the cliffs came true when the last Ger-

nation's taste for pancakes drenched with "maple" sirup. Tobacco manufacturers have discovered it as a flavoring for their products.

The early colonists learned about maple sugar from the Indians, and for many years it was the only sugar they used. They reversed the Indian process of freezing off the water from the sap by boiling it off.

Clear, pure sirup and sugar now result from improved sap-collecting and sugaring-off methods. On some farms, instead of the old pail method (illustration, below), the sap is run into pipes which carry it direct to large containers. Modern factories process the sap from many farms into sirup, sugar, and even into candies shaped like maple leaves. But it still takes at least 32 gallons of sap to yield a United States-standard 11-pound gallon of sirup, which, with further cooking, amounts to eight pounds of sugar.

For maple flavor at its best, Vermonters and their maple-belt neighbors swear by "sugar on the snow." Hot maple sirup poured thinly on snow hardens into tough taffy. It is eaten with a fork. Late winter snow is sometimes packed in the family deep-freeze box to provide the spring treat in authentic form when summer comes.

NOTE: Areas where maple sugar is produced may be located on the Society's map of The United States.

For additional information, see "Maple Sugar Helps Out Overworked Beet and Cane," in the GEOGRAPHIC SCHOOL BULLETINS for March 12, 1945.

WINSTON H. POTE

**SAP COLLECTING IS DONE IN THE OLD WAY IN THIS NEW ENGLAND SUGAR BUSH**

When approaching spring melts the snow and the hills begin to turn green, sap in the sugar maple trees starts its leisurely flow. This sweet and useful trickle lasts from six weeks to two months, ending when the tree begins to bud. In this New Hampshire sugar bush old processing methods prevail. The sap is collected in buckets as it drips slowly from a wooden spout set in a hole bored in the tree. It is collected in the wooden vat which the horse-drawn sledge drags from tree to tree over the still-snowy ground. The large wood pile will fuel the fire over which the sap will boil to sirup.

man guns on the French coast were silenced. In summer, now, hot Londoners vacation at the beaches (illustration, page 2).

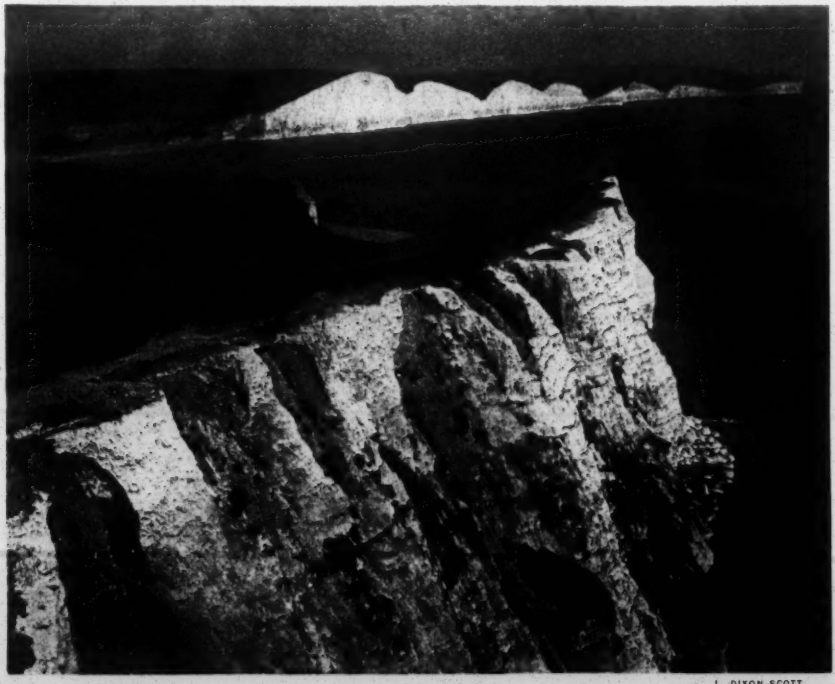
Dover's cliffs have seen some of the world's greatest dramas, from the landing of Caesar's galleys in 55 B.C., to the return of the British Army from Dunkerque in 1940. Partly because of the Channel barrier, neither Napoleon nor Hitler set foot on English soil.

England's protective moat, however, is of relatively recent formation as geologists rate time. Some thousands of years ago, before the old river gaps widened into the English Channel and the Strait of Dover, Britain was a part of the European continent.

Through fierce action of wind and waves, the sea is still wearing down the Channel shores. But the coastline changes are not all subtraction. Silt blocks river mouths and forms new land. Sandwich—famous as one of the medieval Cinque Ports—is now two miles inland. Romney, also of that merchant federation, is a mile from the sea. Green marshes have smothered the ancient harbors of Rye and Winchelsea.

Erosion of the soft chalk has caused cliff falls since the Norman Conquest. Wartime bombardment and severe cold are undoubted factors in the latest crumbling of the famous cliffs.

NOTE: The Dover coast may be located on the Society's map of The British Isles. See also, "The Preservation of England's Historic and Scenic Treasures," in the *National Geographic Magazine* for April, 1945*; and "Front-line Town of Britain's Siege," January, 1944*.



J. DIXON-SCOTT

**THE SEVEN SISTERS NEAR EASTBOURNE: SUCH A SCENE IS LIKE A TRADEMARK FOR ENGLAND**